Abstract

An apparatus and method for polling stations that transmit periodic traffic streams are disclosed. A station transmits a polling request that specifies the temporal period of the station's traffic stream, and a coordinator, after receiving the polling request, repeatedly sends polls to the station in a rapid-fire manner until a response from the station is received. The coordinator estimates the temporal offset for the temporal period based on one or both of (i) the time at which the coordinator received the response, and (ii) the time at which the coordinator transmitted the particular poll to which the station responded. Based on the temporal period and temporal offset, the coordinator establishes a polling schedule that polls the station soon after the station generates a frame. The coordinator also monitors downlink traffic to polled stations and, when the downlink traffic is periodic, establishes a downlink transmission schedule accordingly.